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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/821,164	03/28/2001	Robert E. Cousins	DOT-004	4023
3897	7590	10/05/2004	EXAMINER	
SCHNECK & SCHNECK P.O. BOX 2-E SAN JOSE, CA 95109-0005			ZHONG, CHAD	
			ART UNIT	PAPER NUMBER
			2152	
DATE MAILED: 10/05/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/821,164	Applicant(s) COUSINS, ROBERT E.	
	Examiner Chad Zhong	Art Unit 2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10-11-2001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-21 are presented for examination.
2. It is noted that although the present application does contain line numbers in specification and claims, the line numbers in the claims do not correspond to the preferred format. The preferred format is to number each line of every claim, with each claim beginning with line 1. For ease of reference by both the Examiner and Applicant all future correspondence should include the recommended line numbering.
3. Applicant is required to update the status (pending, allowed, etc.) of all parent priority applications in the first line of the specification. The status of all citations of US filed applications in the specification should also be updated where appropriate.
4. The disclosure is objected to because of the following informalities:
pg 7, line 27, 55 need to be changed to 53.

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112, second paragraph

5. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. The following terms lack antecedent basis:
 - i. the efficient transmission unit – claims 12, 13

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371 (c) of this title before the invention thereof by the applicant for patent.

7. Claims 1-8, 12-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Hendel et al. (hereinafter Hendel), US 6,115,378.

8. As per claim 1, Hendel teaches a system for accelerating the flow of data packets between a client who is a dial-in customer of an Internet service provider and a server in a communication network comprising (Col. 3, lines 31-45):

(a) a connection optimization interface device located at said Internet service provider's facility intermediating between a bank of modems and the Internet (Fig 1, a hardware forwarding search engine), and

(b) connection means for connecting the connection optimization interface device between a plurality of clients and a plurality of servers with each client and server requesting and transmitting a plurality of

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data packets from each other (abstract).

9. As per claim 2, Hendel teaches the system of claim 1 wherein the connection optimization device includes software means for managing the connection optimization interface device operation (Col. 8, lines 5-16; Col. 13, lines 54-61).

10. As per claim 3, Hendel teaches the system of claim 1 wherein the connection optimization interface device includes buffer means for storing data from the data packets and connection information (Col. 7, lines 11-12; Col. 7, lines 64-68).

11. As per claim 4, Hendel teaches the system of claim 1 wherein the connection optimization interface device includes memory means for storing the software means (Fig 2, item 214).

12. As per claim 5, Hendel teaches the system of claim 1 wherein the connection optimization interface device includes processor means for operating said connection optimization interface device (Fig 2, item 261).

13. As per claim 6, claim 6 is rejected for the same reasons as rejection to combination of claims 1-5 above.

14. As per claim 7, Hendel teaches the system of claim 6 wherein the software means includes means for managing the client TCP/IP connection (Col. 10, lines 1-8).

15. As per claim 8, claim 8 is rejected for the same reasons as rejection to claim 7 above.

16. As per claim 12, Hendel teaches the system of claim 6 wherein the software means includes means for determining the contents of the data packet and forwarding the data packet if it is filled to the efficient transmission unit (Col. 6, lines 13-27).

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17. As per claim 13, Hendel teaches the system of claim 6 wherein the software means includes means for determining the contents of the data packet and holding the data packet in the buffer if it does not approximate the efficient transmission unit, accumulating a plurality of data packets in the buffer, restructuring the data packets to approximate the efficient transmission unit, then forwarding the data packet (grouping of packet and determination is made whether the mount of data is greater than Maximum segment size [Col. 6, lines 47-67] and the window size is set to allow a specified rate of packets of according to the detected speed [Col. 8, lines 55-58 and Fig. 2H]).

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendel et al. (hereinafter Hendel) in view of Packer, US 6,038,216.

20. As per claim 9, Hendel does not explicitly teaches the system of claim 6 wherein the software means includes means for scheduling the data packet transmissions against servers.

21. Packer teaches the system of claim 6 wherein the software means includes means for scheduling the data packet transmissions against servers (Col. 3, lines 17-34, lines 53-63; Fig 1).

22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Packer's teachings to modify the system of Hendel by using a scheduler in order to manage

bandwidth of the network link.

23. As per claim 10, claim 10 is rejected for the same reasons as rejection to claim 9 above.

24. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hendel et al. (hereinafter Hendel) in view of Colby, US 6,006,264.

25. As per claim 11, Hendel does not explicitly teach the system of claim 6 wherein the software means includes means for translating the data packets, wherein the translating means includes means for reformatting the data packets by adding, modifying or removing cookies, and by removing comments or other non-essential contents of the data packets.

26. Colby discloses a content aware flow switch that established connection between a server and users (Col. 5, lines 62-66). The switch calculates the average bandwidth, calculates the TCP window size and if the request content is to be streamed exclude the QOS tag (cookies) (Col. 15, lines 55-67).

27. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Colby's teachings to modify the system of Hendel by removing cookies and non-essential data in order to reduce the size of packets associated with the flow and efficiently manage the bandwidth.

28. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hendel et al. (hereinafter Hendel) in view of Dimitri, US 5,521,597.

29. As per claim 14, Hendel does not explicitly teach the system of claim 6 wherein the software means contains a transformation means whereby the data packet size may be dynamically compressed or encrypted prior to transmission, with the client having a software transformation means to dynamically transform the data packet by decompression or de-encryption upon arrival.

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30. Dimitri teaches a method and system for compressing data packets transported between a server and a client over a link that automatically compress/data packets transmitted and decompresses data packets received (abstract; Fig 1; Col. 2, lines 27-28)

31. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use Dimitri's teachings to modify the system of Hendel by compressing data packets prior to transmission and decompress the data packets when received in order to reduce the bandwidth requirements of the network link and increase the speed of the transporting data over the link.

32. Claim 15, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendel et al. (hereinafter Hendel) in view of 'Official Notice'.

33. As per claim 15, Hendel does not explicitly teach the system of claim 6 wherein the buffer means is random access memory. "Official Notice" is taken that the concept and advantages of providing for random access memory is well known and expected in the art. It would have been obvious to one of ordinary skill in the art to include random access memory with Hendel because it would provide for an inexpensive way to store data.

34. As per claim 17, claim 17 is rejected for the same reason as rejection to claim 15 above.

35. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hendel et al. (hereinafter Hendel) in view of Britt, Jr et al. (hereinafter Britt), US 6,023,268.

36. As per claim 16, Handel does not explicitly teach the system of claim 6 wherein the buffer means is flash memory.

37. Britt teaches a method and system for downloading data from a server to a client processing

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system over a communication network. The memory in the processing system is a flash memory (Col. 2, lines 29-53; Fig 4, item 22b).

38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Britt's teachings to modify the system of Hendel by using a flash memory as a buffer memory in order to reduce latency while downloading the data.

39. Claim 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hendel et al. (hereinafter Hendel) in view of Packer, US 5,802,106.

40. As per claim 18, Hendel does not explicitly teach the system of claim 6 wherein for each client connected to the device the software means further includes means for collecting data packet transfer rates between the device and the client, associating such rates with the client data packet header information, retaining the transfer rates in the buffer means, determining the average data transfer speed for data packets, forwarding the data packets at a rate approximate to the data transfer rate, queuing excess data packets in the buffer means.

41. Packer teaches a rate/detection device in a packet communication environment between a user and a server (Col. 2, lines 6367; Fig 1, item 26). The device estimates the actual data rate capacity of a path by monitoring the packets traffic and associating individual packets with the duration of transmission (server) or of reception (user), given knowledge of the number of bits "m" in the data packet, the serialization speed is estimated (Col. 3, lines 1-12). The estimated speed is used to establish a connection and adjust the packet size (data length) (Col. 5, lines 32-45)

42. It would be been obvious to one of ordinary skill in the art at the time the invention was made to use Packer's teaching to modify the system of Hendel by determining the data packet flow rates and

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associate it with transmitted or received packets, determining the packets transfer speed and establish a connection based on the packets speed in order to control packet traffic efficiently and reduce latency.

43. As per claim 19, claim 19 is rejected for the same reasons as rejection to claim 18 above.

44. As per claim 20, Hendel does not explicitly teach the system of claim 6 wherein for each server connected to the connection optimization interface device the software means includes means for monitoring the connection means to determine an average connection speed between the server and the connection optimization interface device.

45. Parker teaches a rate/detection device in a packet communication environment between a user and a server (Col. 2, lines 63-67; Fig 1, item 26). The device estimates the actual data rate capacity of a path by monitoring the packets traffic and associating individual packets with the duration of transmission (server) or of reception (user), given knowledge of the number of bits "m" in the data packet, the serialization speed is estimated (Col. 3, lines 1-12). The estimated speed is used to establish a connection and adjust the packet size (data length) (Col. 5, lines 32-45)

46. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Packer's teachings to modify the system of Hendel by monitoring the connection, and determining the packets transfer speed and establish a connection based on the packets speed in order to control packet traffic efficiently and reduce latency.

Conclusion

47. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents and publications are cited to further show the state of the art with respect to

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“SYSTEM FOR INCREASING DATA PACKET TRANSFER RATE BETWEEN A PLURALITY OF MODEMS AND THE INTERNET”.


- i. US 2003/0237016 Johnson et al.
- ii. US 6618709 Sneeringer
- iii. US 6606689 Cheng et al.
- iv. US 2002/0136224 Motley

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chad Zhong whose telephone number is (703) 305-0718. The examiner can normally be reached on M-F 7am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on 703-305-8498. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

CZ
September 14, 2004


ZARNI MAUNG
PRIMARY EXAMINER